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Mathematic. vol. 6.

New Method
OF
ARITHMETICK:
OR, THE
Rule of PRACTICE
MADE PERFECT.

Together with
Some Useful REMARKS
UPON CALCULATING
Customs and Exchange.

By JOHN KNOTT,
Teacher of the MATHEMATICKS, in *Norwich.*

Nota vel ignota, valet Brevitas.

NORWICH: Printed by *Freeman Collins*, near the Red-
Well, and Sold there, and by most Booksellers in *England.*
Price One Shilling Six-pence. 1713. 4. *April.*

ERRATA.

Page 10. Line 7. for 4377 at 1 s. read 4337 at 1 s. p. 23.
 Column 2. l. 4. for at 1 s. r. at 8 s. p. 24. col. 2. l. 17.
 for $> r. <$ ditto l. 18. for 9 s. 1 d. r. 9 s. 7 d. p. 26. l. 11.
 col. 2. for $s \div 80$ r. $s \div 60$ p. 27. l. 12. col. 1. for $a + c^3$
 r. $a + c^4$ ditto l. 7. col. 2. for $a \times 5$ r. $s \times 11$ ditto l. 13.
 for $a + c^3$ r. $a + f^6$ p. 28. l. ult. for $a + k^{11}$ r. $a + k^{10}$.



To Richard Ferrier, Esq;

S I R,

I Have taken the Freedom, from our former Conversation in Numbers, to Offer the following Sheets to YOUR Protection.

The Method (as far as I am able to judge) is, what has not been made Publick, since the Invention of Figures, and tho' I could almost flatter my Self, it will give a General Satisfaction, to a People, so well acquainted with Commerce, as the Inhabitants of *Great Britain*, I could not withstand so fair an Opportunity of Ushering it to the World with the Advantages of a Person, whose Judgment and Inclination to Encourage this Kind of Learning is unquestionable. I am,

S I R,

With the last Respect,

Yours, J. K.

THE INTRODUCTION.

THE Rule of PRACTICE consists chiefly in Multiplying and Dividing any Sum of Money, without altering the Denomination, or Terms wherein it is given.

For Example. Let it be required to Multiply

l.	s.	d.	q.	
5	19	7	3	by 9
Answ.	53	16	9	3

Thus Performed.

Nine times 3 are 27, put down 3 Farthings, and carry 6 Pence, then 9 times 7 are 63, and 6 make 69. put down 9 Pence, and carry 5 Shillings; also 9 times 9 are 81, and 5 make 86, put down 6 Shillings, and carry 8 Angels; again 9 times 1 are 9, and 8 make 17, put down 1 Angel, and carry 8 Pounds; lastly, 9 times 5 are 45, and 8 make 53 Pounds, &c. as in the Example.

The Introduction.

IV

To prove this Performance by Division, let it be required to Divide the said

$$\begin{array}{r} \text{l.} \quad \text{s.} \quad \text{d.} \quad \text{q.} \\ 53 \quad 16 \quad 9 \quad 3 \quad \text{by } 9 \end{array}$$

Ans. $\begin{array}{r} 5 \quad 19 \quad 7 \quad 3 \end{array}$ Thus done,

The Nines in 53 are 5 times, put down 5. and 8 remain, viz. 8 Pounds, which make 16 Angels, and 1 are 17, then the Nines in 17 is once, put down 1 and 8 remain, viz. 8 Angels, which make 80 Shillings, and 6 are 86, also the Nines in 86 are 9 times, put down 9 and 5 remain, viz. 5 Shillings, which are 60 Pence, and 9 are 69; again, the Nines in 69 are 7 times, put down 7, and 6 remain, viz. 6 Pence, which are 24 Farthings, and 3 are 27; lastly the Nines in 27 are 3 times exactly, which put down also, as in the Example.

The next Thing to be considered, is the Table of Aliquot Parts, and how each of those Parts may be performed at one Operation; I shall therefore explain an Example or Two, which (I presume) will be sufficient for Understanding the Rest.

Let it be required to cast up 7593 Ells, at 3 d. per Ell.

Quest. $\underline{7593 \text{ at } 3 \text{ d.}}$

Ans. $\begin{array}{r} 94 \quad 18 \quad 3 \end{array}$

Because Three-pence is the 80th Part of a Pound, divide 7593 by 80, or, which is the same Thing, separate the Figure 3 in the Place of Units by a Comma, and divide 759 by 8, thus. The Eights in 75 are 9 times, which put down under the 5, and 3 remain, then the Eights in 39 are 4 times, which put down also, and 7 remain, viz. 73 Threepences, but because 4 make a Shilling, divide the said 73 by 4, that is, the Fours in 7 is once, which put down, and 3 remain; also the Fours in 33 are 8 times, which put down, and there remains one Threepence as above.

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Again, Quest. $254,3$ at 8 d.

Ans^r. $84 \quad 15 \quad 4$

Separate the Figure 3 in the Place of Units as before, and because Eight-pence is the 30th Part of a Pound, divide 254 by 3, and you will find 84, and 2 left, which with the Figure 3 cut off, will make 23 Eight-pences; now because Eight-pence is not an even or Aliquot Part of a Shilling, double the 23 Eight-pences, and they will make 46 Groats, which being divided by 3 will give 15 s. 4 d.

Thus are the Aliquot Parts of a Pound (which may serve as a Basis or Foundation for the rest) easily performed: And because it would be too tedious to represent the several Parts of these, I have designed the following Characters as a Key to the whole Work, by which every particular Operation is Discovered at the First View.

I confess Symbols are not frequently made use of in these early Parts of Number; but that they are preferable to Verbal Demonstration, I have the Opinion of our late learned Country-Man, Mr. William Oughtred, who judges they cannot be too early implanted in the Minds of Youth, considering, how they help and strengthen the Imagination, by representing in one single Page, what would take whole Sheets otherwise to explain.

An Explanation of the Characters.

+	Addition.
—	Subtraction.
×	Multiplication.
÷	Division.
s	The Sum given.
a	The First Operation.
b	The Second.
c	The Third.
d	The Fourth, and so forward Alphabetically.
<	The Sign of Omission, that is such Line to which this Sign is prefixed, is to be omitted, or not added with the rest of the Work.
r	The Rate, or Price of a Yard, Ell, &c.

Note. When more than two Lines are to be added, to avoid the frequent Repetition of the same Sign instead of writing $a + b + c$, viz. the Sum of the First, Second and Third Operations, I put the Sign of Addition only between the first and last Letters, and a small Figure representing the Number of such Operations, immediately following: Thus, $a + c^3$.

A Table of such Aliquot Parts of a Pound Sterling, as may be Performed at one Operation only.

s.	d.				th.
0	2	—	—	—	120
0	3	—	—	—	80
0	4	—	—	—	60
0	6	—	—	—	40
0	8	—	—	—	30
1	0	—	—	—	20
1	8	—	—	—	12
2	0	—	—	—	10
2	6	—	—	—	8
3	4	—	—	—	6
4	0	—	—	—	5
5	0	—	—	—	4
6	8	—	—	—	3 ^{d.}
10	0	—	—	—	$\frac{1}{2}$

P R A C T I C E.

I

<i>Quest.</i>	453,6 at 1 q.	<i>Quest.</i>	453,6 at 1 q.
s ÷ 80	56 14	s ÷ 120	37 16
a ÷ 12	<i>Answ.</i> 4 14 6	a ÷ 8	<i>Answ.</i> 4 14 6

<i>Quest.</i>	279,5 at 2 q.	<i>Quest.</i>	279,5 at 2 q.
s ÷ 40	69 17 6	s ÷ 60	46 11 8
a ÷ 12	<i>Answ.</i> 5 16 5 2	a ÷ 8	<i>Answ.</i> 5 16 5 2

<i>Quest.</i>	864,1 at 3 q.	<i>Quest.</i>	864,1 at 3 q.
s ÷ 40	216 0 6	s ÷ 80	108 0 3
a ÷ 8	<i>Answ.</i> 27 0 0 3	a ÷ 4	<i>Answ.</i> 27 0 0 3

<i>Quest.</i>	369,0 at 1 d.	<i>Quest.</i>	369,0 at 1 d.
s ÷ 20	184 10	s ÷ 40	92 5
a ÷ 12	<i>Answ.</i> 15 7 6	a ÷ 6	<i>Answ.</i> 15 7 6

<i>Quest.</i>	7295 at 1 $\frac{3}{4}$ d.	<i>Quest.</i>	7295 at 1 $\frac{3}{4}$ d.
s ÷ 8	911 17 6	s ÷ 12	607 18 4
a ÷ 6	151 19 7	a ÷ 8	75 19 9 2
b ÷ 4	<i>Answ.</i> 37 19 10 3	b ÷ 2	<i>Answ.</i> 37 19 10 3

<i>Quest.</i>	246,9 at 1 $\frac{1}{2}$ d.	<i>Quest.</i>	246,9 at 1 $\frac{1}{2}$ d.
s ÷ 20	123 9	s ÷ 40	61 14 6
a ÷ 8	<i>Answ.</i> 15 8 7 2	a ÷ 4	<i>Answ.</i> 15 8 7 2

B

PRACTICE.

<i>Quest.</i>	398,7 at $1\frac{1}{4}$ d.	<i>Quest.</i>	3987 at $1\frac{1}{4}$ d.
$s \div 120$	33 4 6	$s \times 7$	2790,9
$a \div 8$	4 3 0 3	$a \div 80$	348 17 3
$a - b$	<i>Ans.</i> 29 1 5 1	$b \div 12$	<i>Ans.</i> 29 1 5 1
<i>Quest.</i>	479,6 at 2 d.	<i>Quest.</i>	479,6 at 2 d.
$s \div 120$	<i>Ans.</i> 39 19 4	$s \div 20$	239 16
		$a \div 6$	<i>Ans.</i> 39 19 4
<i>Quest.</i>	378,9 at $2\frac{1}{4}$ d.	<i>Quest.</i>	378,9 at $2\frac{1}{4}$ d.
$s \div 120$	31 11 6	$s \div 80$	47 7 3
$a \div 8$	3 18 11 1	$a \div 4$	11 16 9 3
$a + b$	<i>Ans.</i> 35 10 5 1	$a - b$	<i>Ans.</i> 35 10 5 1
<i>Quest.</i>	3587 at $2\frac{1}{2}$ d.	<i>Quest.</i>	3587 at $2\frac{1}{2}$ d.
$s \div 8$	448 7 6	$s \div 12$	298 18 4
$a \div 12$	<i>Ans.</i> 37 7 3 2	$a \div 8$	<i>Ans.</i> 37 7 3 2
<i>Quest.</i>	963,1 at $2\frac{1}{4}$ d.	<i>Quest.</i>	9631 at $2\frac{1}{4}$ d.
$s \div 80$	120 7 9	$s \times 11$	10594,1
$a \div 12$	10 0 7 3	$a \div 80$	1324 5 3
$a - b$	<i>Ans.</i> 110 7 1 1	$b \div 12$	<i>Ans.</i> 110 7 1 1
<i>Quest.</i>	472,9 at 3 d.	<i>Quest.</i>	472,9 at 3 d.
$s \div 80$	<i>Ans.</i> 59 2 3	$s \div 20$	236 9
		$a \div 4$	<i>Ans.</i> 59 2 3

P R A C T I C E.

3

<i>Quest.</i>	654,2 at $3\frac{1}{4}$ d.	<i>Quest.</i>	6542 at $3\frac{1}{4}$ d.
$s \div 80$	81 15 6	$s \div 12$	545 + 2 q.
$a \div 12$	6 16 3 2	$s + a$	708,7
$a + b$	<i>Answ.</i> 88 11 9 2	$b \div 80$	<i>Answ.</i> 88 11 9 2

<i>Quest.</i>	639,5 at $3\frac{1}{2}$ d.	<i>Quest.</i>	639,5 at $3\frac{1}{2}$ d.
$s \div 80$	79 18 9	$s \div 60$	106 11 8
$a \div 6$	13 6 5 2	$a \div 8$	13 6 5 2
$a + b$	<i>Answ.</i> 93 5 2 2	$a - b$	<i>Answ.</i> 93 5 2 2

<i>Quest.</i>	3455 at $3\frac{1}{4}$ d.	<i>Quest.</i>	345,5 at $3\frac{1}{4}$ d.
$s \div 8$	431 17 6	$s \div 80$	43 3 9
$a \div 8$	<i>Answ.</i> 53 19 8 1	$a \div 4$	10 15 11 1
		$a + b$	<i>Answ.</i> 53 19 8 1

<i>Quest.</i>	893,4 at 4 d.	<i>Quest.</i>	893,4 at 4 d.
$s \div 60$	<i>Answ.</i> 148 18	$s \div 20$	446 14
		$a \div 3$	<i>Answ.</i> 148 18

<i>Quest.</i>	885,5 at $4\frac{1}{4}$ d.	<i>Quest.</i>	885,5 at $4\frac{1}{4}$ d.
$s \div 120$	73 15 10	$s \div 80$	110 13 9
$s \div 120$	73 15 10	$a \div 3$	36 17 11
$b \div 8$	9 4 5 3	$b \div 4$	9 4 5 3
$a + c^3$	<i>Answ.</i> 156 16 1 3	$a + c_3$	<i>Answ.</i> 156 16 1 3

<i>Quest.</i>		432,9 at $4\frac{1}{2}d.$		<i>Quest.</i>		432,9 at $4\frac{1}{2}d.$	
$s \div 80$		54	2 3	$s \div 60$		72	3
$a \div 2$		27	1 1 2	$a \div 8$		9	0 4 2
$a + b$		<i>Answ.</i> 81 3 4 2		$a + b$		<i>Answ.</i> 81 3 4 2	
<i>Quest.</i>		389,1 at $4\frac{1}{4}d.$		<i>Quest.</i>		389,1 at $4\frac{1}{4}d.$	
$s \div 80$		48	12 9	$s \div 60$		64	17
$a \div 2$		24	6 4 2	$a \div 8$		8	2 1 2
$b \div 6$		4	1 0 3	$b \div 2$		4	1 0 3
$a + c^3$		<i>Answ.</i> 77 0 2 1		$a + c^3$		<i>Answ.</i> 77 0 2 1	
<i>Quest.</i>		1561 at 5 d.		<i>Quest.</i>		1561 at 5 d.	
$s \div 8$		195	2 6	$s \div 12$		130	1 8
$a \div 6$		<i>Answ.</i> 32 10 5		$a \div 4$		<i>Answ.</i> 32 10 5	
<i>Quest.</i>		874,6 at $5\frac{1}{4}d.$		<i>Quest.</i>		874,6 at $5\frac{1}{4}d.$	
$s \div 40$		218	13	$s \div 80$		109	6 6
$a \div 8$		27	6 7 2	$a \div 4$		27	6 7 2
$a - b$		<i>Answ.</i> 191 6 4 2		$b \times 7$		<i>Answ.</i> 191 6 4 2	
<i>Quest.</i>		321,9 at $5\frac{1}{2}d.$		<i>Quest.</i>		321,9 at $5\frac{1}{2}d.$	
$s \div 40$		80	9 6	$s \div 80$		40	4 9
$a \div 12$		6	14 1 2	$a \div 6$		6	14 1 2
$a - b$		<i>Answ.</i> 73 15 4 2		$b \times 11$		<i>Answ.</i> 73 15 4 2	

PRACTICE.

5

Quest.	712,5 at $5\frac{1}{4}d.$	Quest.	712,5 at $5\frac{1}{4}d.$
$s \div 120$	59 7 6	$s \div 80$	89 1 3
$s \div 80$	89 1 3	$a \times 2$	178 2 6
$b \div 4$	22 5 3 3	$a \div 12$	7 8 5 1

$a + c^3$ Answ. 170 14 0 3 $b - c$ Answ. 170 14 0 3

Quest.	243,7 at 6 d.	Quest.	243,7 at 6 d.
$s \div 40$	Answ. 60 18 6	$s \div 20$	121 17
		$a \div 2$	Answ. 60 18 6.

Quest.	610,5 at $6\frac{1}{4}d.$	Quest.	610,5 at $6\frac{1}{4}d.$
$s \div 80$	76 6 3	$s \div 60$	101 15
$s \div 80$	76 6 3	$a \div 2$	50 17 6
$b \div 12$	6 7 2 1	$b \div 8$	6 7 2 1

$a + c^3$ Answ. 158 19 8 1 $a + c^3$ Answ. 158 19 8 1

Quest.	711,3 at $6\frac{1}{2}d.$	Quest.	711,3 at $6\frac{1}{2}d.$
$s \div 40$	177 16 6	$s \div 12$	592 $\div 4\frac{1}{2}d.$
$a \div 12$	14 16 4 2	$s - a$	770,5
$a - b$	Answ. 192 12 10 2	$b \div 40$	Answ. 192 12 10 2

Quest.	381,9 at $6\frac{1}{4}d.$	Quest.	381,9 at $6\frac{1}{4}d.$
$s \div 40$	95 9 6	$s \div 80$	47 14 9
$a \div 8$	11 18 8 1	$a \div 4$	11 18 8 1
$a + b$	Answ. 107 8 2 1	$b \times 9$	Answ. 107 8 2 1

<i>Quest.</i>	238,3 at 7 d.	<i>Quest.</i>	238,3 at 7 d.
s ÷ 40	59 11 6	s ÷ 60	39 14 4
a ÷ 6	9 18 7	s ÷ 80	29 15 9
a + b	<i>Answ.</i> 69 10 1	a + b	<i>Answ.</i> 69 10 1
<i>Quest.</i>	53,4 at 7 $\frac{1}{4}$ d.	<i>Quest.</i>	53,4 at 7 $\frac{1}{4}$ d.
s ÷ 40	13 7	s ÷ 80	6 13 6
a ÷ 6	2 4 6	s ÷ 30	17 16
b ÷ 4	11 1 2	a ÷ 4	1 13 4 2
a + c ³	<i>Answ.</i> 16 2 7 2	b — c	<i>Answ.</i> 16 2 7 2
<i>Quest.</i>	6215 at 7 $\frac{1}{2}$ d.	<i>Quest.</i>	6215 at 7 $\frac{1}{2}$ d.
s ÷ 4	1553 15	s ÷ 8	776 17 6
a ÷ 8	<i>Answ.</i> 194 4 4 2	a ÷ 4	<i>Answ.</i> 194 4 4 2
<i>Quest.</i>	444,3 at 7 $\frac{3}{4}$ d.	<i>Quest.</i>	444,3 at 7 $\frac{3}{4}$ d.
s ÷ 40	111 1 6	s ÷ 60	74 1
a ÷ 4	27 15 4 2	s ÷ 80	55 10 9
b ÷ 6	4 12 6 3	b ÷ 4	13 17 8 1
a + c ³	<i>Answ.</i> 143 9 5 1	a + c ³	<i>Answ.</i> 143 9 5 1
<i>Quest.</i>	299,5 at 8 d.	<i>Quest.</i>	299,5 at 8 d.
s ÷ 30	<i>Answ.</i> 99 16 8	s ÷ 60	49 18 4
		a × 2	<i>Answ.</i> 99 16 8

PRACTICE

7

Quest. 354,3 at $8\frac{1}{4}$ d.

$$\begin{array}{r} s \div 40 \\ a \div 8 \end{array} \quad \begin{array}{r} 88 \text{ II } 6 \\ \hline 11 \text{ I } 5 \text{ I} \end{array}$$

b $\times$ 11 Answ. 121 15 9 3

Quest. 354,3 at $8\frac{1}{4}$ d.

$$\begin{array}{r} s \times 11 \\ a \div 80 \end{array} \quad \begin{array}{r} 3897,3 \\ \hline 487 \text{ 3 3} \end{array}$$

b $\div$ 4 Answ. 121 15 9 3

Quest. 210,5 at $8\frac{1}{2}$ d.

$$\begin{array}{r} s \div 60 \\ s \div 60 \\ b \div 8 \end{array} \quad \begin{array}{r} 35 \text{ I } 8 \\ \hline 35 \text{ I } 8 \\ \hline 4 \text{ 7 } 8 \text{ 2} \end{array}$$

a $\div$ c³ Answ. 74 II 0 2

Quest. 210,5 at $8\frac{1}{2}$ d.

$$\begin{array}{r} s \div 40 \\ a \div 3 \\ b \div 4 \end{array} \quad \begin{array}{r} 52 \text{ 12 } 6 \\ \hline 17 \text{ 10 } 10 \\ \hline 4 \text{ 7 } 8 \text{ 2} \end{array}$$

a $\div$ c³ Answ. 74 II 0 2

Quest. 750,1 at $8\frac{1}{4}$ d.

$$\begin{array}{r} s \div 120 \\ a \times 3 \\ b \div 8 \end{array} \quad \begin{array}{r} 62 \text{ 10 } 2 \\ \hline 187 \text{ 10 } 6 \\ \hline 23 \text{ 8 } 9 \text{ 3} \end{array}$$

a $\div$ c³ Answ. 273 9 5 3

Quest. 750,1 at $8\frac{1}{4}$ d.

$$\begin{array}{r} s \div 80 \\ a \times 3 \\ a \div 12 \end{array} \quad \begin{array}{r} 93 \text{ 15 } 3 \\ \hline 281 \text{ 5 } 9 \\ \hline 7 \text{ 16 } 3 \text{ I} \end{array}$$

b — c Answ. 273 9 5 3

Quest. 406,5 at 9 d.

$$s \div 80 \quad 50 \text{ 16 } 3$$

a $\times$ 3 Answ. 152 8 9

Quest. 4065 at 9 d.

$$s \times 3 \quad 1219,5$$

a $\div$ 80 Answ. 152 8 9

Quest. 459,1 at $9\frac{1}{4}$ d.

$$\begin{array}{r} s \div 40 \\ a \div 2 \\ b \div 12 \end{array} \quad \begin{array}{r} 114 \text{ 15 } 6 \\ \hline 57 \text{ 7 } 9 \\ \hline 4 \text{ 15 } 7 \text{ 3} \end{array}$$

a $\div$ c³ Answ. 176 18 10 3

Quest. 459,1 at $9\frac{1}{4}$ d.

$$\begin{array}{r} s \div 30 \\ a \div 8 \\ b \div 4 \end{array} \quad \begin{array}{r} 153 \text{ 0 } 8 \\ \hline 19 \text{ 2 } 7 \\ \hline 4 \text{ 15 } 7 \text{ 3} \end{array}$$

a $\div$ c³ Answ. 176 18 10 3

Quest. 87,9 at $9\frac{1}{2}$ d.				Quest. 87,9 at $9\frac{1}{2}$ d.			
s ÷ 40	21	19	6	s ÷ 30	29	6	
a ÷ 2	10	19	9	a ÷ 8	3	13	3
b ÷ 6	1	16	7 2	b ÷ 2	1	16	7 2
a + c, Answ. 34 15 10 2				a + c ³ Answ. 34 15 10 2			
Quest. 59,9 at $9\frac{1}{4}$ d.				Quest. 59,9 at $9\frac{1}{4}$ d.			
s ÷ 40	14	19	6	s ÷ 120	4	19	10
a ÷ 2	7	9	9	a × 5	24	19	2
a ÷ 4	1	17	5 1	a ÷ 8	12	5	3
a + c, Answ. 24 6 8 1				b — c Answ. 24 6 8 1			
Quest. 1557 at 10 d.				Quest. 1557 at 10 d.			
s ÷ 8	194	12	6	s ÷ 12	129	15	
a ÷ 3 Answ.	64	17	6	a ÷ 2 Answ.	64	17	6
Quest. 95,9 at $10\frac{1}{4}$ d.				Quest. 95,9 at $10\frac{1}{4}$ d.			
s ÷ 30	31	19	4	s ÷ 120	7	19	10
a ÷ 4	7	19	10	a × 5	39	19	2
b ÷ 8	19	11	3	a ÷ 8	19	11	3
a + c ³ Answ. 40 19 1 3				b — c Answ. 40 19 1 3			
Quest. 534,9 at $10\frac{1}{2}$ d.				Quest. 534,9 at $10\frac{1}{2}$ d.			
s ÷ 20	267	9		s ÷ 80	66	17	3
a ÷ 8	33	8	7 2	a ÷ 2	33	8	7 2
a — b Answ. 234 0 4 2				b × 7 Answ. 234 0 4 2			

P R A C T I C E.

9

<i>Quest.</i> 505,6 at $10\frac{1}{4}$ d.				<i>Quest.</i> 5056 at $10\frac{1}{4}$ d.			
$s \div 60$	84	5	4	$s \div 6$	842	13	4
$s \div 40$	126	8		$s \div 80$	63	4	
$b \div 8$	15	16		$a - b$	905	17	4
$a + c^3$ <i>Ans.</i> 226 9 4				$c \div 4$ <i>Ans.</i> 226 9 4			
<i>Quest.</i> 84,5 at 11 d.				<i>Quest.</i> 84,5 at 11 d.			
$s \div 30$	28	3	4	$s \div 20$	42	5	
$s \div 80$	10	11	3	$a \div 12$	3	10	5
$a - b$ <i>Ans.</i> 38 14 7				$a - b$ <i>Ans.</i> 38 14 7			
<i>Quest.</i> 3500 at $11\frac{1}{4}$ d.				<i>Quest.</i> 3500 at $11\frac{1}{4}$ d.			
$s \div 8$	437	10		$s \times 3$	10500		
$a \div 8$	54	13	9	$a \div 8$	1312	10	
$b \times 3$ <i>Ans.</i> 164 1 3				$b \div 8$ <i>Ans.</i> 164 1 3			
<i>Quest.</i> 810,7 at $11\frac{1}{2}$ d.				<i>Quest.</i> 810,7 at $11\frac{1}{2}$ d.			
$s \div 30$	270	4	8	$s \div 80$	101	6	9
$s \div 80$	101	6	9	$a \times 4$	405	7	
$b \div 6$	16	17	9 2	$a \div 6$	16	17	9 2
$a + c^3$ <i>Ans.</i> 388 9 2 2				$b - c$ <i>Ans.</i> 388 9 2 2			
<i>Quest.</i> 555,9 at $11\frac{1}{4}$ d.				<i>Quest.</i> 555,9 at $11\frac{1}{4}$ d.			
$s \div 30$	185	6		$s \div 120$	46	6	6
$s \div 80$	69	9	9	$a \times 6$	277	19	
$b \div 4$	17	7	5 1	$a \div 8$	5	15	9 3
$a + c^3$ <i>Ans.</i> 272 3 2 1				$b - c$ <i>Ans.</i> 272 3 2 1			

<i>Quest.</i> 437,7 at 1 s.		<i>Quest.</i> 437,7 at 1 s.	
s ÷ 20	<i>Ans.</i> 216 17	s ÷ 40	108 8 6
		a × 2	<i>Ans.</i> 216 17
<i>Quest.</i> 785,6 at 1 s. o d. $\frac{1}{4}$		<i>Quest.</i> 785,6 at 1 s. o d. $\frac{1}{4}$	
s ÷ 80	98 4	s ÷ 120	65 9 4
a × 4	392 16	a × 6	392 16
a ÷ 12	8 3 8	a ÷ 8	8 3 8
b + c	<i>Ans.</i> 400 19 8	b + c	<i>Ans.</i> 400 19 8
<i>Quest.</i> 4597 at 1 s. o d. $\frac{1}{2}$		<i>Quest.</i> 4597 at 1 s. o d. $\frac{1}{2}$	
s ÷ 8	574 12 6	s × 50	22985,0
a ÷ 12	47 17 8 2	a ÷ 80	2873 2 6
b × 5	<i>Ans.</i> 239 8 6 2	b ÷ 12	<i>Ans.</i> 239 8 6 2
<i>Quest.</i> 395,6 at 1 s. o d. $\frac{1}{4}$		<i>Quest.</i> 395,6 at 1 s. o d. $\frac{1}{4}$	
s ÷ 40	98 18	s ÷ 80	49 9
s ÷ 40	98 18	a × 4	197 16
b ÷ 8	12 7 3	a ÷ 4	12 7 3
a + c	<i>Ans.</i> 210 3 3	b + c	<i>Ans.</i> 210 3 3
<i>Quest.</i> 652,9 at 1 s. 1 d.		<i>Quest.</i> 6529 at 1 s. 1 d.	
s ÷ 20	326 9	s ÷ 12	544 + 1 d.
a ÷ 12	27 4 1	s + a	707,3
a + b	<i>Ans.</i> 353 13 1	b ÷ 20	<i>Ans.</i> 353 13 1

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<i>Quest.</i>	675,6 at 1s. 1d. $\frac{1}{4}$	<i>Quest.</i>	6756 at 1s. 1d. $\frac{1}{4}$
$s \div 20$	337 16	$s \div 12$	563
$a \div 12$	28 3	$a \div 4$	140 - 9d.
$b \div 4$	7 0 9	$s - b$	745.9

$a + c$ *Ans.* 372 19 9 $c \div 20$ *Ans.* 372 19 9

<i>Quest.</i>	428,5 at 1s. 1d. $\frac{1}{2}$	<i>Quest.</i>	428,5 at 1s. 1d. $\frac{1}{2}$
$s \div 20$	214 5	$s \div 80$	53 11 3
$a \div 8$	26 15 7 2	$a \div 2$	26 15 7 2

$a - b$ *Ans.* 241 0 7 2 $b \times 9$ *Ans.* 241 0 7 2

<i>Quest.</i>	947,9 at 1s. 1d. $\frac{1}{4}$	<i>Quest.</i>	947,9 at 1s. 1d. $\frac{1}{4}$
$s \div 20$	473 19	$s \div 120$	78 19 10
$a \div 8$	59 4 10 2	$a \times 7$	552 18 10
$b \div 6$	9 17 5 3	$a \div 8$	9 17 5 3

$a + c$ *Ans.* 543 1 4 1 $b - c$ *Ans.* 543 1 4 1

<i>Quest.</i>	378,6 at 1s. 2d.	<i>Quest.</i>	3786 at 1s. 2d.
$s \div 120$	31 11	$s \times 7$	2650 2

$a \times 7$ *Ans.* 220 17 $a \div 120$ *Ans.* 220 17

<i>Quest.</i>	712,8 at 1s. 2d. $\frac{1}{4}$	<i>Quest.</i>	712,8 at 1s. 2d. $\frac{1}{4}$
$s \div 20$	356 8	$s \div 120$	59 8
$a \div 6$	59 8	$a \times 7$	415 16
$b \div 8$	7 8 6	$a \div 8$	7 8 6

$a + c$ *Ans.* 423 4 6 $b - c$ *Ans.* 423 4 6

<i>Quest.</i> 697,9 at 1s. 2 d. $\frac{1}{2}$		<i>Quest.</i> 697,9 at 1s. 2 d. $\frac{1}{2}$	
s ÷ 20	348 19	s ÷ 30	232 12 8
a ÷ 6	58 3 2	s ÷ 40	174 9 6
b ÷ 4	14 10 9 2	b ÷ 12	14 10 9 2
a + c ³ <i>Ans.</i> 421 12 11 2		a + c ³ <i>Ans.</i> 421 12 11 2	
<i>Quest.</i> 769,8 at 1s. 2 d. $\frac{3}{4}$		<i>Quest.</i> 769,8 at 1s. 2 d. $\frac{3}{4}$	
s ÷ 30	256 12	s ÷ 80	96 4 6
s ÷ 40	192 9	a × 5	481 2 6
b ÷ 8	24 1 1 2	a ÷ 12	8 0 4 2
a + c ₃ <i>Ans.</i> 473 2 1 2		b — c <i>Ans.</i> 473 2 1 2	
<i>Quest.</i> 783,2 at 1s. 3 d.		<i>Quest.</i> 783,2 at 1s. 3 d.	
s ÷ 8	979	s ÷ 80	97 18
a ÷ 2 <i>Ans.</i> 489 10		a × 5 <i>Ans.</i> 489 10	
<i>Quest.</i> 912,4 at 1s. 3 d. $\frac{1}{4}$		<i>Quest.</i> 912,4 at 1s. 3 d. $\frac{1}{4}$	
s ÷ 20	456 4	s ÷ 80	114 1
a ÷ 4	114 1	a × 5	570 5
b ÷ 12	9 10 1	a ÷ 12	9 10 1
1 + c ³ <i>Ans.</i> 579 15 1		b + c <i>Ans.</i> 579 15 1	
<i>Quest.</i> 719,1 at 1s. 3 d. $\frac{1}{2}$		<i>Quest.</i> 719,1 at 1s. 3 d. $\frac{1}{2}$	
s ÷ 20	359 11	s ÷ 80	89 17 9
a ÷ 4	89 17 9	a × 5	449 8 9
b ÷ 6	14 19 7 2	a ÷ 6	14 19 7 2
a + c ³ <i>Ans.</i> 464 8 4 2		b + c <i>Ans.</i> 464 8 4 2	

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<i>Quest.</i>	839,7 at 1s. 3 d. $\frac{3}{4}$	<i>Quest.</i>	839,7 at 1s. 3 d. $\frac{3}{4}$
s ÷ 20	419 17	s ÷ 80	104 19 3
a ÷ 4	104 19 3	a × 5	524 16 3
b ÷ 4	26 4 9 3	a ÷ 4	26 4 9 3
a + c ³	<i>Ans.</i> 551 1 0 3	b - c	<i>Ans.</i> 551 1 0 3
<i>Quest.</i>	459,7 at 1s. 4 d.	<i>Quest.</i>	459,7 at 1s. 4 d.
s ÷ 30	153 4 8	s ÷ 60	76 12 4
a × 2	<i>Ans.</i> 306 9 4	a × 4	<i>Ans.</i> 306 9 4
<i>Quest.</i>	259,7 at 1s. 4 d. $\frac{1}{4}$	<i>Quest.</i>	2597 at 1s. 4 d. $\frac{1}{4}$
s ÷ 120	21 12 10	s ÷ 8	324 12 6
a × 8	173 2 8	s ÷ 12	216 8 4
a ÷ 8	2 14 1 1	a ÷ 8	40 11 6 3
b - c	<i>Ans.</i> 175 16 9 1	b - c	<i>Ans.</i> 175 16 9 1
<i>Quest.</i>	809,0 at 1s. 4 d. $\frac{1}{2}$	<i>Quest.</i>	8090 at 1s. 4 d. $\frac{1}{2}$
s ÷ 20	404 10	s × 11	8899,0
a ÷ 8	50 11 3	a ÷ 20	4449 10
b × 11	<i>Ans.</i> 556 3 9	b ÷ 8	<i>Ans.</i> 556 3 9
<i>Quest.</i>	794,8 at 1s. 4 d. $\frac{3}{4}$	<i>Quest.</i>	794,8 at 1s. 4 d. $\frac{3}{4}$
s ÷ 20	397 8	s ÷ 40	198 14
a ÷ 4	99 7	s ÷ 40	198 14
b ÷ 2	49 13 6	s ÷ 60	132 9 4
c ÷ 6	8 5 7	b ÷ 8	24 16 9
a - d +	<i>Ans.</i> 554 14 1	a - d +	<i>Ans.</i> 554 14 1

<i>Quest.</i>	4712 at 1 s. 5 d.	<i>Quest.</i>	471,2 at 1 s. 5 d.
$s \div 12$	392 13 4	$s \div 30$	157 1 4
$s \div 80$	58 18	$s \div 30$	157 1 4
$a - b$	<i>Answ.</i> 333 15 4	$b \div 8$	19 12 8
		$a + c$	<i>Answ.</i> 333 15 4
<i>Quest.</i>	295,8 at 1 s. 5 d. $\frac{1}{4}$	<i>Quest.</i>	295,8 at 1 s. 5 d. $\frac{1}{4}$
$s \div 40$	73 19	$s \div 80$	36 19 6
$a \times 3$	221 17	$a \times 6$	221 17
$a \div 8$	9 4 10 2	$a \div 4$	9 4 10 2
$b - c$	<i>Answ.</i> 212 12 1 2	$b - c$	<i>Answ.</i> 212 12 1 2
<i>Quest.</i>	4793 at 1 s. 5 d. $\frac{1}{2}$	<i>Quest.</i>	4793 at 1 s. 5 d. $\frac{1}{2}$
$s \div 12$	399 8 4	$s \div 8$	599 2 6
$a \div 8$	49 18 6 2	$a \div 12$	49 18 6 2
$a - b$	<i>Answ.</i> 349 9 9 2	$b \times 7$	<i>Answ.</i> 349 9 9 2
<i>Quest.</i>	695,4 at 1 s. 5 d. $\frac{1}{4}$	<i>Quest.</i>	695,4 at 1 s. 5 d. $\frac{1}{4}$
$s \div 80$	86 18 6	$s \div 120$	57 19
$a \times 6$	521 11	$a \times 9$	521 11
$a \div 12$	7 4 10 2	$a \div 8$	7 4 10 2
$b - c$	<i>Answ.</i> 514 6 1 2	$b - c$	<i>Answ.</i> 514 6 1 2
<i>Quest.</i>	427,6 at 1 s. 6 d.	<i>Quest.</i>	4276 at 1 s. 6 d.
$s \div 40$	106 18	$s \times 3$	1282,8
$a \times 3$	<i>Answ.</i> 320 14	$a \div 40$	<i>Answ.</i> 320 14

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Quest.	796,3 at 1s. 6d. $\frac{1}{4}$	Quest.	796,3 at 1s. 6d. $\frac{1}{4}$
s ÷ 80	99 10 9	s ÷ 120	66 7 2
a × 6	597 4 6	a × 9	597 4 6
a ÷ 12	8 5 10 3	a ÷ 8	8 5 10 3

b + c | Answ. 605 10 4 3 b + c | Answ. 605 10 4 3

Quest.	493,2 at 1s. 6d. $\frac{1}{2}$	Quest.	493,2 at 1s. 6d. $\frac{1}{2}$
s ÷ 20	246 12	s ÷ 40	123 6
a ÷ 2	123 6	a × 3	369 18
b ÷ 12	10 5 6	a ÷ 12	10 5 6

a + c ³ | Answ. 380 3 6 b + c | Answ. 380 3 6

Quest.	3798 at 1s. 6d. $\frac{1}{4}$	Quest.	3798 at 1s. 6d. $\frac{1}{4}$
s ÷ 8	474 15	s × 5	18990
a ÷ 8	59 6 10 2	a ÷ 8	2373 15

b × 5 | Answ. 296 14 4 2 b ÷ 8 | Answ. 296 14 4 2

Quest.	795,4 at 1s. 7d.	Quest.	795,4 at 1s. 7d.
s ÷ 30	265 2 8	s ÷ 20	397 14
s ÷ 30	265 2 8	a ÷ 2	198 17
s ÷ 80	99 8 6	b ÷ 6	33 2 10

a + c ³ | Answ. 629 13 10 a + c ³ | Answ. 629 13 10

Quest.	435,0 at 1s. 7d. $\frac{1}{4}$	Quest.	435,0 at 1s. 7d. $\frac{1}{4}$
s ÷ 80	54 7 6	s ÷ 30	145
s ÷ 12	362 10	s ÷ 30	145
a ÷ 4	13 11 10 2	s ÷ 80	54 7 6
b — c	Ans. 348 18 1 2	c ÷ 12	4 10 7 2
		a — d ⁴ Ans. 348 18 1 2	

Quest.	796,3 at 1s. 7d. $\frac{1}{2}$	Quest.	796,3 at 1s. 7d. $\frac{1}{2}$
s ÷ 20	398 3	s ÷ 80	99 10 9
a ÷ 2	199 1 6	a × 6	597 4 6
b ÷ 4	49 15 4 2	a ÷ 2	49 15 4 2
a + c ³ Ans. 646 19 10 2		b — c Ans. 646 19 10 2	

Quest.	698,7 at 1s. 7d. $\frac{3}{4}$	Quest.	698,7 at 1s. 7d. $\frac{3}{4}$
s ÷ 120	58 4 6	s ÷ 30	232 18
a × 10	582 5	s ÷ 30	232 18
a ÷ 8	7 5 6 3	s ÷ 80	87 6 9
b — c	Ans. 574 19 5 1	c ÷ 4	21 16 8 1
		a + d ⁴ Ans. 574 19 5 1	

Quest.	8574 at 1s. 8d.	Quest.	8574 at 1s. 8d.
s ÷ 12	Ans. 714 10	s ÷ 4	2143 10
		a ÷ 3 Ans. 714 10	

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Quest.	267,9 at 1s. 8d. $\frac{1}{4}$	Quest.	267,9 at 1s. 8d. $\frac{1}{4}$
s ÷ 120	22 6 6	s ÷ 80	33 9 9
a × 10	223 5	s ÷ 12	223 5
a ÷ 8	2 15 9 3	a ÷ 12	2 15 9 3

b + c | Answ. 226 0 9 3 b - c | Answ. 226 0 9 3

Quest.	309,7 at 1s. 8d. $\frac{1}{2}$	Quest.	309,7 at 1s. 8d. $\frac{1}{2}$
s ÷ 120	25 16 2	s ÷ 80	38 14 3
a × 10	258 1 8	s ÷ 12	258 1 8
a ÷ 4	6 9 0 2	a ÷ 6	6 9 0 2

b + c | Answ. 264 10 8 2 b - c | Answ. 264 10 8 2

Quest.	432,9 at 1s. 8d. $\frac{1}{4}$	Quest.	432,9 at 1s. 8d. $\frac{1}{4}$
s ÷ 80	54 2 3	s ÷ 80	54 2 3
a × 7	378 15 9	s ÷ 12	360 15
a ÷ 12	4 10 2 1	a ÷ 4	13 10 6 3

b - c | Answ. 374 5 6 3 b - c | Answ. 374 5 6 3

Quest.	427,9 at 1s. 9 d.	Quest.	4279 at 1s. 9 d.
s ÷ 80	53 9 9	s × 7	2995,3

a × 7 | Answ. 374 8 3 a ÷ 80 | Answ. 374 8 3

Quest.	5765 at 1s. 9 d. $\frac{1}{4}$	Quest.	576,5 at 1s. 9 d. $\frac{1}{4}$
s ÷ 12	480 8 4	s ÷ 80	72 1 3
a ÷ 4 <	120 2 1	s × 7	504 8 9
b ÷ 4	30 0 6 1	a ÷ 12	6 0 1 1

a + c | Answ. 510 8 10 1 b + c | Answ. 510 8 10 1

Quest.	379,4 at 1s. 9d. $\frac{1}{2}$	Quest.	379,4 at 1s. 9d. $\frac{1}{2}$
s ÷ 20	189 14 .	s ÷ 80	47 8 6
s ÷ 30	126 9 4	a × 7	331 19 6
a ÷ 8	23 14 3	a ÷ 6	7 18 1

1 - c³ | Answ. 339 17 7 | b - c | Answ. 339 17 7

Quest.	485,9 at 1s. 9d. $\frac{3}{4}$	Quest.	485,9 at 1s. 9d. $\frac{3}{4}$
s ÷ 80	60 14 9	s ÷ 120	40 9 10
a × 7	425 3 3	a × 11	445 8 2
a ÷ 4	15 3 8 1	a ÷ 8	5 1 2 3

b - c | Answ. 440 6 11 1 | b - c | Answ. 440 6 11 1

Quest.	398,2 at 1s. 10d.	Quest.	398,2 at 1s. 10d.
s ÷ 120	33 3 8	s × 11	4380,2

a × 11 | Answ. 365 0 4 | a ÷ 120 | Answ. 365 0 4

Quest.	487,3 at 1s. 10d. $\frac{1}{4}$	Quest.	487,3 at 1s. 10d. $\frac{1}{4}$
s ÷ 12	406 1 8	s ÷ 120	40 12 2
a ÷ 10	40 12 2	a × 11	446 13 10
b ÷ 8	5 1 6 1	a ÷ 8	5 1 6 1

a - c³ | Answ. 451 15 4 1 | b - c | Answ. 451 15 4 1

Quest.	927,1 at 1s. 10d. $\frac{1}{2}$	Quest.	927,1 at 1s. 10d. $\frac{1}{2}$
s ÷ 12	772 11 8	s ÷ 8	1158 17 6
a ÷ 8	96 11 5 2	a ÷ 12	96 11 5 2

a + b | Answ. 869 3 1 2 | b × 9 | Answ. 869 3 1 2

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Quest.	3578 at 1s. 10 d. $\frac{1}{4}$	Quest.	357,8 at 1s. 10 d. $\frac{1}{4}$
s $\div$ 12	298 3 4	s $\div$ 30	119 5 4
a $\div$ 8	37 5 5	s $\div$ 30	119 5 4
b $\div$ 10	3 14 6 2	s $\div$ 40	89 9 0
a + c ³	Ans. 339 3 3 2	c $\div$ 8	11 3 7 2

a + d ₄	Ans. 339 3 3 2
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Quest.	6986 at 1s. 11 d.	Quest.	6986 at 1s. 11 d.
s $\div$ 12	582 3 4	s $\div$ 8	873 5
s $\div$ 80	87 6 6	a $\div$ 2	436 12 6
a - b	Ans. 669 9 10	s $\div$ 30	232 17 4

b - c	Ans. 669 9 10
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Quest.	7631 at 1s. 11 d. $\frac{1}{4}$	Quest.	763,1 at 1s 11 d. $\frac{1}{4}$
s $\div$ 12	635 18 4	s $\div$ 40	190 15 6
s $\div$ 80	95 7 9	a $\times$ 4	763 2
b $\div$ 12	7 18 11 3	a $\div$ 8	23 16 11 1

a + c ³	Ans. 739 5 0 3	b - c	Ans. 739 5 0 3
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Quest.	4987 at 1s. 11 d. $\frac{1}{2}$	Quest.	498,7 at 1s 11 d. $\frac{1}{2}$
s $\div$ 12	415 11 8	s $\div$ 40	124 13 6
s $\div$ 80	62 6 9	a $\times$ 4	498 14
b $\div$ 6	10 7 9 2	a $\div$ 12	10 7 9 2

a + c ³	Ans. 488 6 2 2	b - c	Ans. 488 6 2 2
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Quest.	3583 at 15. 11d. $\frac{1}{4}$	Quest.	3583 at 15. 11d. $\frac{1}{4}$
s ÷ 12	298 11 8	s ÷ 8	447 17 6
s ÷ 80	44 15 9	s ÷ 12	298 11 8
b ÷ 4	11 3 11 1	a ÷ 8	55 19 8 1
a + c	Ans. 354 11 4 1	b + c	Ans. 354 11 4 1

If the Reader be well acquainted with the foregoing Questions, it will be very easy for him to perform any Thing from a Farthing to a Pound; because all the even Numbers of Shillings may be done at one Operation, by the following Rule.

*Multiply the Sum given by half the Number of Shillings :
Let the first Figure produced be doubled and put in the Place of Shillings, and the rest will be Pounds.*

Exempli Gratia.

Let it be required to Cast up 359 Ells, at 8 Shillings per Ell. viz.

Quest.	359 at 8 s.
s × $\frac{4}{1}$	Ans. 143 12

Thus performed.

Because

Because 4 Shillings is the one Half of 8 Shillings, multiply 359 the Sum given by 4, saying, 4 times 9 is 36, but 6 being the first Figure produced, double it and put 12 in the Place of Shillings; then proceed with the Multiplication by 4, viz. 4 times 5 is 20, and 3 is 23, put down the Figure 3, and conclude the Work with 4 times 3 is 12, and 2 is 14, which makes 143 12 as in the Example.

The Reason of the Rule.

'Tis evident that in any even Number of Shillings, there are half so many times 2 Shillings; therefore if the Sum given be multiplied by half the Shillings, the Product will be a Question at 2 Shillings equivalent to the former: But 2 Shillings being the Tenth Part of a Pound, and the dividing by Ten no more than separating the Figure in the Place of Units, that doubled must produce Shillings, and the Rest will be Pounds, as the Rule directs.

Questions of all the even Numbers of Shillings, from two Shillings to a Pound.

Quest.	734,5 at 2 s.	This needs no second Operation, being evident at sight.	
s ÷ 10	Ans. 734 10		
Quest.	8139 at 4 s.	Quest.	8139 at 4 s.
s × 10	Ans. 1627 16	s ÷ 5	Ans. 1627 16

Quest.	1533 at 6 s.	Quest.	1533 at 6 s.
s X $1\frac{2}{10}$	Answ. 459 18	s X 3	459,9
		a ÷ 10	Answ. 459 18
Quest.	7557 at 8 s.	Quest.	7557 at 1 s.
s X $1\frac{4}{10}$	Answ. 3022 16	s X 4	3022,8
		a ÷ 10	Answ. 3022 16
Quest.	645 at 10 s.	Quest.	645 at 10 s.
s X $1\frac{1}{10}$	Answ. 322 10	s ÷ 2	Answ. 322 10
Quest.	867 at 12 s.	Quest.	867 at 12 s.
s X $1\frac{6}{10}$	Answ. 520 4	s X 6	520,2
		a ÷ 10	Answ. 520 4
Quest.	6453 at 14 s.	Quest.	6453 at 14 s.
s X $1\frac{7}{10}$	Answ. 4517 2	s X 7	4517,1
		a ÷ 10	Answ. 4517 2
Quest.	953 at 16 s.	Quest.	953 at 16 s.
s X $1\frac{8}{10}$	Answ. 762 8	s X 8	762,4
		a ÷ 10	Answ. 762 8
Quest.	8103 at 18 s.	Quest.	8103 at 18 s.
s X $1\frac{9}{10}$	Answ. 7292 14	s X 9	7292,7
		a ÷ 10	Answ. 7292 14

PRACTICE.

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Questions between 2 Shillings and a Pound.

<i>Quest.</i>	579 at 3 s. 2 d.	<i>Quest.</i>	579 at 3 s. 2 d.
s ÷ 8	72 7 6	s ÷ 6	96 10
s ÷ 30	19 6	s ÷ 120	4 16 6
a + b	<i>Answ.</i> 91 13 6	a — b	<i>Answ.</i> 91 13 6
<i>Quest.</i>	710,0 at 5 s. 10 d. $\frac{2}{3}$	<i>Quest.</i>	7100 at 5 s. 10 d. $\frac{2}{3}$
s ÷ 20	355	s × 1 $\frac{2}{3}$	1420
a × 6	2130	s ÷ 12	591 13 4
a ÷ 8	44 7 6	b ÷ 8	73 19 2
b — c	<i>Answ.</i> 2085 12 6	a + c ³	<i>Answ.</i> 2085 12 6
<i>Quest.</i>	1504 at 9 s. 2 d.	<i>Quest.</i>	1504 at 9 s. 2 d.
s × 1 $\frac{4}{5}$	601 12	s ÷ 12	125 6 8
s ÷ 20	75 4	s ÷ 2	752
b ÷ 6	12 10 8	a ÷ 2	62 13 4
a + c ³	<i>Answ.</i> 689 6 8	b — c	<i>Answ.</i> 689 6 8
<i>Quest.</i>	702 at 11 s. 4 d. $\frac{1}{2}$	<i>Quest.</i>	702 at 11 s. 4 d. $\frac{1}{2}$
s ÷ 8	87 15	s ÷ 2	351
s × 1 $\frac{4}{5}$	421 14	s ÷ 20	35 2
a ÷ 4	21 18 9	b ÷ 4	8 15 6
b — c	<i>Answ.</i> 399 5 3	c ÷ 2	4 7 9
		a + d ⁴	<i>Answ.</i> 399 5 3

PRACTICE.

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Questions between 2 Shillings and a Pound.

Quest. 853½ at 13 s. 9 d.		Quest. 853½ at 13 s. 9 d.	
s ÷ 80	10 13 3	s × 10	597 2
s × 10	511 16	s ÷ 8	10 13 3
a × 7	74 12 9	a — b	586 8 9
r ÷ 2	6 10 2	r ÷ 2	6 10 2
b + d³ Answ. 586 15 7 2		c + d Answ. 586 15 7 2	
Quest. 714 at 14 s. 11 d. ¼		Quest. 71,4 at 14 s. 11 d. ¼	
s × 10	499 16	s ÷ 40	17 17
s ÷ 30	23 16	s ÷ 4	178 10
s ÷ 80	8 18 6	b × 3	535 10
c ÷ 12	14 10 2	a ÷ 8	2 4 7 2
a + d⁴ Answ. 533 5 4 2		c — d Answ. 533 5 4 2	
Quest. 184½ at 15 s. 4 d.		Quest. 184½ at 15 s. 4 d.	
s × 10	128 16	s × 10	147 4
s ÷ 30	6 2 8	s ÷ 30	6 2 8
s ÷ 30	6 2 8	a — b	141 1 4
r ÷ 2	7 8	r ÷ 8	> 1 11
d ÷ 4	1 11	d × 5	9 1
a + e³ Answ. 141 10 11		c + c Answ. 141 10 11	

PRACTICE.

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Questions between 2 Shillings and a Pound.

Quest.	544 at 18 s. 3 d. $\frac{1}{4}$	Quest.	544 at 18 s. 3 d. $\frac{1}{4}$
s ÷ 8	68	s ÷ 80	6 16
s × 1 $\frac{2}{5}$	489 12	s ÷ 12	45 6 8
a ÷ 8	8 10	b × 11	498 13 4
b + c	Ans. 498 2	a ÷ 12	11 4
		c -- d	Ans. 498 2

Quest.	571 at 19 s. 0 d. $\frac{1}{4}$	Quest.	571 at 19 s. 0 d. $\frac{1}{4}$
s ÷ 8	71 7 6	s ÷ 40	14 5 6
a ÷ 8	8 18 5 1	s × 1 $\frac{2}{5}$	513 18
b × 3	26 15 3 3	a × 2	28 11
s — c	Ans. 544 4 8 1	a ÷ 8	1 15 8 1
		b + d 3	Ans. 544 4 8 1

Questions at Large.

Quest.	215 at 2 l. 13 s. 10 d.	Quest.	215 at 2 l. 13 s. 10 d.
s × 1 $\frac{2}{5}$	193 10	s × 2	430
1 × 3	580 10	s ÷ 3	71 13 4
s ÷ 120	1 15 10	s ÷ 3	71 13 4
b — c	Ans. 578 14 2	s ÷ 40	5 7 6
		a + d 4	Ans. 578 14 2

Quest.		187 $\frac{3}{4}$ at 3 l . 3 s . 9 d .	Quest.		187 $\frac{3}{4}$ at 3 l . 3 s . 9 d .
s $\times$ 3		561	s $\times$ 3		561
s $\div$ 8		23 7 6	a $\div$ 20		28 1
b $\div$ 2		11 13 9	b $\div$ 4		7 0 3
r $\div$ 2		1 11 10 2	r $\div$ 4	<	15 11 1
d $\div$ 2		15 11 1	d $\times$ 3		2 7 9 3

$$a + e^3 \text{ Answ. } 598 \ 9 \ 0 \ 3 \quad a + e^4 \text{ Answ. } 598 \ 9 \ 0 \ 3$$

Quest.		841 at 3 l . 18 s . 4 d .	Quest.		841 at 3 l . 18 s . 4 d .
s $\times$ 4		3364	s $\times$ 3		2523
s $\div$ 12		70 1 8	s $\times$ 10 $\frac{2}{3}$		756 18
a — b	An. 3293 18 4		s $\div$ 80		14 0 4
			a + c ³	An. 3293 18 4	

Quest.		210,7 at 4 l . 0 s . 1 d . $\frac{3}{4}$	Quest.		210,7 at 4 l . 0 s . 1 d . $\frac{3}{4}$
s $\div$ 20		105 7	s $\div$ 120		17 11 2
s $\times$ 4		8428	a $\div$ 8		2 3 10 3
a $\div$ 8		13 3 4 2	s $\times$ 4		8428
c $\div$ 6		2 3 10 3	a — b		15 7 3 1
b + d ³	An. 8443 7 3 1		c + d	A. 8443 7 3 1	

Quest.		319 at 4 l . 16 s .	Quest.		319 at 4 l . 16 s .
s $\times$ 10 $\frac{4}{5}$		191 8	s $\times$ 10 $\frac{4}{5}$		127 12
a $\times$ 8	Anf. 1531 4		a $\times$ 12	Anf. 1531 4	

PRACTICE.

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Questions at Large.

Quest.	950 at 4l. 17s. 8d.	Quest.	950 at 4l. 17s. 8d.
s × 4	3800	s ÷ 60	15 16 8
s × $\frac{1}{10}$	760	s × 5	4750
s ÷ 12	79 3 4	a × 7	110 16 8
a + c ³	Anf. 4639 3 4	b — c	Anf. 4639 3 4
Quest.	563 $\frac{7}{8}$ at 11l. 14s. 6d.	Quest.	563 $\frac{7}{8}$ at 11l. 14s. 6d.
s × 11	6193	a × 6	6193
s × $\frac{7}{10}$	394 2	s × $\frac{6}{10}$	337 16
s ÷ 40	14 1 6	s ÷ 8	70 7 6
r ÷ 8	< 1 9 3 3	r ÷ 2	5 17 3
d × 7	10 5 2 1	d ÷ 2	2 18 7 2
a + e ³	An. 6611 8 8 1	e ÷ 2	1 9 3 3
		a + c ³	An. 6611 8 8 1
Quest.	29,7 at 35l. 0s. 0d. $\frac{1}{2}$	Quest.	29,7 at 35l. 0s. 0d. $\frac{1}{2}$
s ÷ 40	7 8 6	s ÷ 80	3 14 3
s × 7	2079	s × 5	1485
b × 5	10395	b × 7	10395
a ÷ 12	12 4 2	a ÷ 6	12 4 2
c + d	A. 10395 12 4 2	c + d	A. 10395 12 4 2

The preceding Examples seem to have sufficient Variety to inform the Reader in this the most useful Part of Arithmetick, and in all Probability may lead him to further Enquiries of this Kind; I shall therefore, add only one Example in Fractions, as a Step to such Progress, and with him all imaginable Success.

An Example in Fractions.

Quest.	C.	gr.	lb.	l.	s.	d.	
	47	3	19	at	7	17	10 $\frac{3}{4}$ per Cent.
s X 7	329						
s X 10	37	12					
s X 12	3	18	4				
c ÷ 8		9	9	2			
d ÷ 10			11	3			
r ÷ 2	3	18	11	1	$\frac{1}{2}$	=	56
f ÷ 2	1	19	5	2	$\frac{1}{4}$	=	84
g ÷ 2		19	8	3	$\frac{1}{8}$	=	42
f ÷ 7		5	7	2	$\frac{1}{28}$	=	76
i ÷ 4		1	4	3	$\frac{1}{12}$	=	75
a + k ¹²	Answ. 378	6	3	2	$\frac{5}{12}$		$\frac{111}{112}$

Remarks upon Customs and Exchange.

THE Officers of the Customs generally calculate the Duties of that Revenue by Rules of Practice, and are indeed very expeditious therein; nor can any other Method be wholly serviceable to them, considering that those Duties are appropriated to particular Funds: But the Merchants, who are no wise concern'd with the Application of the Sums payable, may find by the Help of Decimal Numbers fitted for the whole Duty, what the Custom of any imported or exported Commodity will amount to, with more Ease, than any other Way of Computation will admit of.

The following Calculation will shew how the Numbers are found correspondent to the Custom of *Tobacco*, and will I presume be a sufficient Inlet to those who are acquainted with Decimal Arithmetick for the finding any other suitable to their Occasion.

d.	240 lb	Old Subsidy =	,95
1 per lb	= 1 l.	New Subsidy =	,92625
5 per Cent. off	= ,05	Addit. Duty =	,87875
Old Subsidy	= ,95	$\frac{2}{3}$ New Sub.	= ,29485625
2 $\frac{1}{2}$ per Cent. off	= ,02375	Impost	= 2,484
New Subsidy	= ,92625	lb	
5 per Cent. more off	} ,0475	Duty of 240	= 5,53385625
the old, viz. 7 $\frac{1}{2}$	= } ,0475	lb	
Additional Duty	= ,87875	Duty of 12	= ,2766928125
$\frac{1}{3}$ of the New	} ,30875	lb	
Subsidy with 4 $\frac{1}{2}$	} ,01389375	Duty of 1	= ,023057734375
per Cent. off = }	,29485625		
3 d. per lb	= 3,		
10 per Cent. off	= ,3		
	2,7		
8 per Cent. off	= ,216		
Impost	= 2,484		

A Table for the Custom of Tobacco.

lb		lb	
1 =	,023057734375	6 =	,13834640625.
2 =	,04611546875.	7 =	,161404140625
3 =	,069173203125	8 =	,184461875...
4 =	,0922309375..	9 =	,207519609375
5 =	,115288671875		

By the Help of the foregoing Table, which may be entred in a Pocket-Book, the Duty of any Quantity of Tobacco, consisting of one Figure and the rest Cyphers, may be known by Inspection, and any other by Addition only.

Let it be required to find the Duty of 3000 lb

Separate as many Places towards the left Hand of the Tabular Number against the Figure 3, as there are Cyphers in the Number propos'd, viz. 3 Places, thus, 069,173203125, double the Figure next following the Comma, for Shillings, viz. twice 1 are 2 Shillings, and because the Figure following exceeds 5, take 5 from it, for which add one Shilling more, viz. 3 Shillings: The 2 which remain, after the taking away of 5 from 7, will make the next Figure 23, which count as so many Farthings, with this Caution only, That between 3 d. and 9 d. one Farthing must be abated, and between 9 d. and a Shilling 2 Farthings; the Duty then of 3000 lb is 69 l. 3 s. 5 $\frac{1}{2}$ d.

Other Numbers are thus Computed.

lb		l.	s.	d.
5789 =	5000 =	115	5	9
	700 =	16	2	9 $\frac{1}{2}$
	80 =	1	16	10 $\frac{1}{2}$
	9 =	0	4	1 $\frac{1}{4}$
Total, =		133	9	6 $\frac{1}{4}$

An Example for the Duty on Holland Cloth.
Suppose 80 Ells, at 3 d. per Ell.

1 l.

5 per Cent. off = ,05

Old Subsidy = ,95

New Subsidy = ,95

$\frac{1}{2}$ of the Old = ,475

10 per Cent. off = ,0475

Additional duty = ,4275

$\frac{1}{3}$ of the old Sub. = ,3166666666

Old Subsidy = ,95

New Subsidy = ,95

Addit. Duty = ,4275

$\frac{1}{3}$ of the Old = ,3166666666

Duty of 80 Ells = 2,6441666666

One Ell = ,03305208333

The Table.

Ells.

1 = ,03305208333

2 = ,06610416666

3 = ,09915624999

4 = ,13220833333

5 = ,16526041666

6 = ,19831249999

7 = ,23136458333

8 = ,26441666666

9 = ,29746874999

Now Nothing can be more ready than this Table, to Calculate the Custom of any Quantity of *Hollands* whatsoever, as may appear by the following Examples.

Ells	l.	s.	d.
50000	= 1652	12	1
8000	= 264	8	3 $\frac{1}{4}$
900	= 29	14	11
70	= 2	6	3

} These by Inspection only.

Let it be required to find the Duty of 9463 Ells.

Ells	l.	s.	d.
9000	= 297	9	4 $\frac{1}{4}$
400	= 13	4	4 $\frac{1}{4}$
60	= 1	19	8
3	=	1	11 $\frac{1}{4}$

Answer by Addition = 312 15 4 $\frac{1}{4}$

The

The Use of Decimal Fractions in computing the Exchange between one Country and another is in many Cases preferable to all other Methods whatsoever.

A in Amsterdam is indebted to B in London £. 14379: 13 Exchange 33 s. 8 d. Agio $4\frac{1}{2}$ per Cent.

Quere how much Sterling.

33 s. 8 d. is 10,1 Guilders

4 per Cent. = ,404

$\frac{1}{2}$ per Cent. = ,0505

Gilders for £. = 10,5545 | 14379,6500000 | 1362,418

382515 Ans. 1362 8 4 $\frac{1}{4}$

658800

255300

442100

199200

936550

Note, That 3 Places of Decimals are added to the Dividend, more than those in the Divisor, which answer to Shillings, Pence and Farthings, by the Rule of valuing a Decimal Fraction, afore-mentioned.

A in Gothenburg is indebted to B in London, 29553 Copper Dollars, Exchange at $25\frac{1}{2}$ Dollars for one Pound Sterling.

25,875 | 29553,000000 | 1142,144

36780

Ans. 1142 2 10 $\frac{1}{2}$

109050

55500

37500

116250

127500



F I N I S.

